

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Canceled).
2. (Currently Amended) The apparatus according to claim  $[[1]]$  5, wherein the number of image lines for calculation set by the setting section is equal to or less than that of all image lines of the document image read out from the scanner section.
3. (Currently Amended) The apparatus according to claim  $[[1]]$  5, wherein the storing section starts reading-out of data when data corresponding to the number of image lines for calculation set by the setting section has been stored in the memory.
4. (Currently Amended) The apparatus according to claim  $[[1]]$  5, wherein the density histogram creating section keeps a total data amount of the density histogram constant irrespective of the number of image lines taken in.
5. (Currently Amended) The An image forming apparatus according to claim 1, comprising:
  - a scanner section which reads a document in a main scanning direction and in a sub-scanning direction to provide image data indicating a density of each pixel within a document image for each image line in the main scanning direction;
  - a storing section which stores the image data provided from the scanner section in a memory;
  - a setting section which sets the number of image lines for calculation used for calculation of reference values for density correction;
  - a density histogram creating section which takes in the image data provided from the scanner for each image line and creates a density histogram of the document image on the basis of image data corresponding to the number of image lines for calculation set by the setting section;

a correction reference value calculating section which calculates a set of correction reference values for pixel density correction using the density histogram created in the density histogram creating section;

a pixel density correcting section which reads out the image data stored in the memory and performs correction of a pixel density indicated by the image data on all the read image data using the set of correction reference values calculated in the correction reference value calculating section; and

an image forming section which forms an image from the pixel density corrected in the pixel density correcting section,

wherein the correction reference value calculating section comprises a detecting section which detects two representative densities ( $D_B$ ,  $D_W$ ) of a background and a character of the document from the density histogram created by the density histogram creating section; and

the pixel density correcting section corrects the input pixel density according to the following equation[ $[.]$ ]:

$$D_N = (D_I - D_W) * FF[H] / (D_B - D_W)$$

where  $D_I$  is an input pixel density,  $D_W$  is a representative background density,  $D_B$  is a representative character density,  $FFh$  is the maximum density indicated by hexadecimal number, and  $D_N$  is a corrected pixel density.

6. – 14. (Canceled).